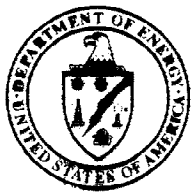
DOE/ID-11119
September 2004



U.S. Department of Energy
Idaho Operations Office

Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10

DOE/ID-11119
Revision 0
Project No. 22901

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Prepared for the
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Approved by

Gary McDannel per telecon by [signature] 9/22/04
Gary McDannel, WAG 1 Project Engineer — Date

[signature] 9/22/04
Jim Jessmore, V-Tank Project Manager — Date

ABSTRACT

The purpose of this Remedial Design/Remedial Action Scope of Work (RD/RA SOW) is to identify the remediation strategy, project scope, schedule, and budget necessary to initiate the implementation of the V-Tanks remediation, in accordance with the requirements and objectives of the Record of Decision Amendment of February 2004. This RD/RA SOW has also been prepared to include the elements of the remedial design work plan. Specifically, this RD/RA SOW identifies and defines the remedial action approach and strategy, and the detailed plan for preparing the remedial design documents including scope, schedule, and budget.

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ACRONYMS

ARAR	applicable or relevant and appropriate requirement
bgs	below ground surface
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	contaminant of concern
DEQ	Idaho Department of Environmental Quality
DOE	U.S. Department of Energy
EPA	U.S. Environmental Protection Agency
ERA	Early Remedial Action
ESD	explanation of significant difference
FFA/CO	Federal Facility Agreement and Consent Order
FRG	final remediation goals
HWMA	Hazardous Waste Management Act
IC	institutional controls
ICDF	INEEL CERCLA Disposal Facility
INEEL	Idaho National Engineering and Environmental Laboratory
NCP	National Oil and Hazardous Substances Pollution Contingency Plan
O&M	operations and maintenance
OU	operable unit
P&ID	piping and instrument diagram
PCB	polychlorinated biphenyl
PFD	process flow diagram
RA	remedial action
RAO	remedial action objectives
RAWP	remedial action work plan
RCRA	Resource Conservation and Recovery Act

RD	remedial design
RD/RA	remedial design/remedial action
RD/RAWP	remedial design/remedial action work plan
RI/FS	remedial investigation/feasibility study
ROD	record of decision
SARA	Superfund Amendment and Reauthorization Act
SOW	scope of work
TAN	Test Area North
TBC	to be considered
WAC	waste acceptance criteria
WAG	waste area group
WFD	work flow diagram

Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10

1. INTRODUCTION AND PURPOSE

In accordance with the Idaho National Engineering and Environmental Laboratory (INEEL) Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991), the U.S. Department of Energy Idaho Operations Office submits this Remedial Design/Remedial Action Scope of Work (RD/RA SOW) for the remediation of the Test Area North (TAN) V-Tanks. These V-Tanks have been designated as TSF-09 (V-1, 2, and 3) and TSF-18 (V-9) and are part of Operable Unit (OU) 1-10. This remedial action will proceed in accordance with the signed *Record of Decision Amendment for the V-Tanks (TSF-09 and TSF-18) at the Test Area North, Operable Unit 1-10,* dated February 2004 (DOE-ID 2004a).

The Record of Decision (ROD) Amendment presents a modification to the original remedy for the TAN V-Tanks. The modification was chosen in accordance with the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (42 USC 9601 et seq.) as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), and, to the extant practicable, the National Oil and Hazardous Substances Pollution Contingency Plan (NCP) (40 CFR 300). The documents that form the basis for the decisions made in this ROD Amendment are contained in the Administrative Record for OU 1-10. This decision satisfies the requirements of the FFA/CO between the U.S. Department of Energy (DOE), the U.S. Environmental Protection Agency (EPA), and the Idaho Department of Environmental Quality (DEQ).

The purpose of this RD/RA SOW is to identify the remediation strategy, project scope, schedule, and budget necessary to initiate the implementation of the V-Tanks remediation, in accordance with the requirements and objectives of the ROD Amendment (DOE-ID 2004a). This RD/RA SOW has also been prepared to include the elements of the remedial design work plan. Specifically, this RD/RA SOW identifies and defines the remedial action approach and strategy, and the detailed plan for preparing the remedial design documents including scope, schedule, and budget. The draft of this SOW was reviewed by the Agencies. See Appendix A for the Agency Comment Resolution Forms.

1.1 Background

The V-Tanks site includes four tanks, associated piping, and the soil around the tanks located at the Test Area North. Figure 1 shows the general location of the tanks and Figure 2 shows a schematic of the tank configuration. The tanks contain sludge contaminated with metals, various toxic organic compounds, and radionulcides. In 1999, a cleanup remedy was selected for the V-Tanks specifying treatment of tank contents at an approved off-INEEL treatment facility. The piping, the metal tank shells, and the surrounding soil were to be removed and disposed of at an approved facility on the INEEL Site or elsewhere. However, following the cleanup decision, the facility selected to treat the tank contents ceased treating waste. There is no other facility available that can do the treatment required by the 1999 decision. Therefore, a new remedy for the tank contents was selected. Rather than off-INEEL treatment, this new remedy involves on-INEEL chemical oxidation and grouting of the sludge. No change was made to the part of the remedy that dealt with the removal and disposal of contaminated soil from around the tanks. The revised plan also called for a consolidating and/or blending of the tank contents in order to facilitate management of waste as a single, homogeneous waste stream.

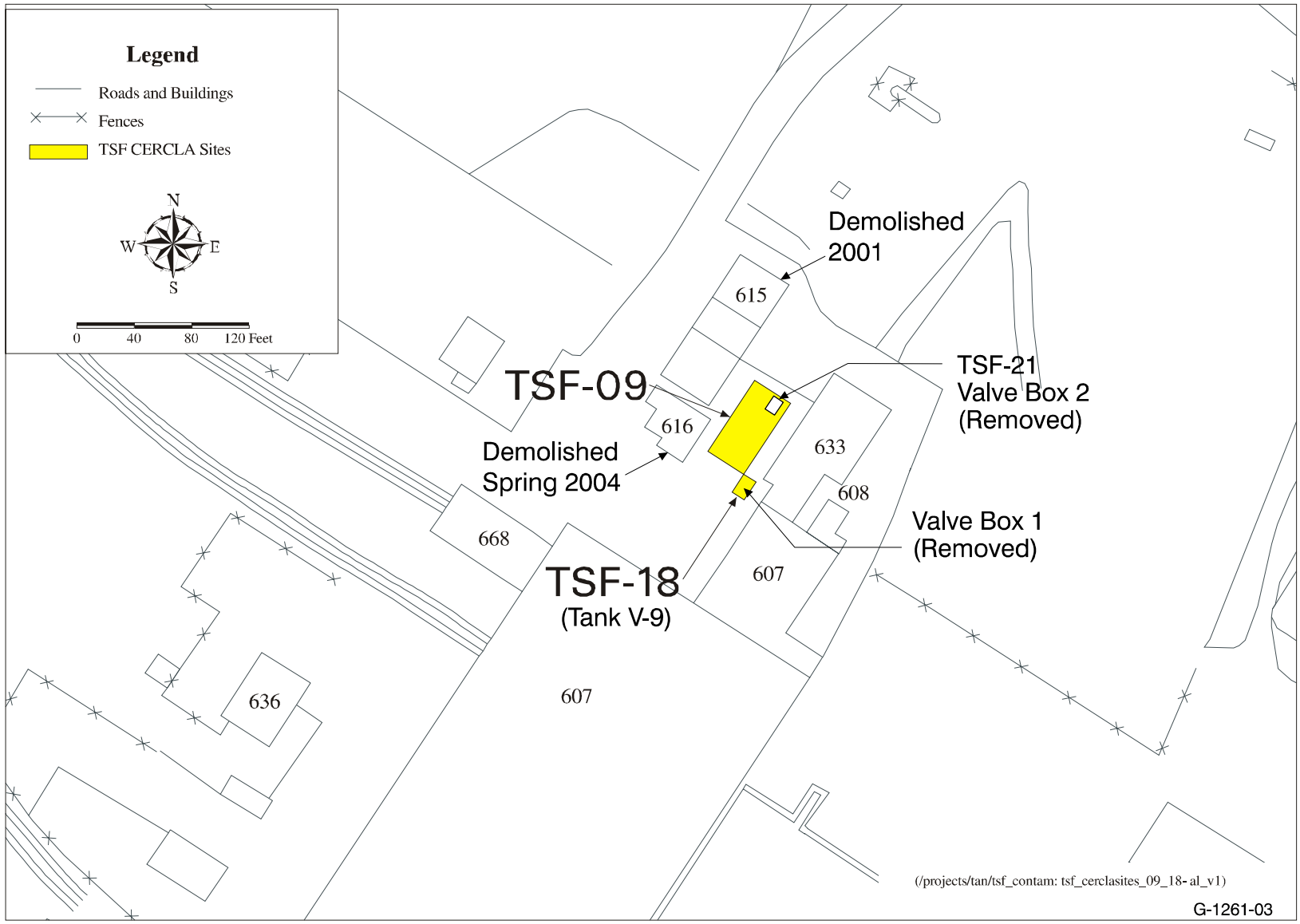

Figure 1. General location of V-Tanks are in areas TSF-09 and TSF-18.

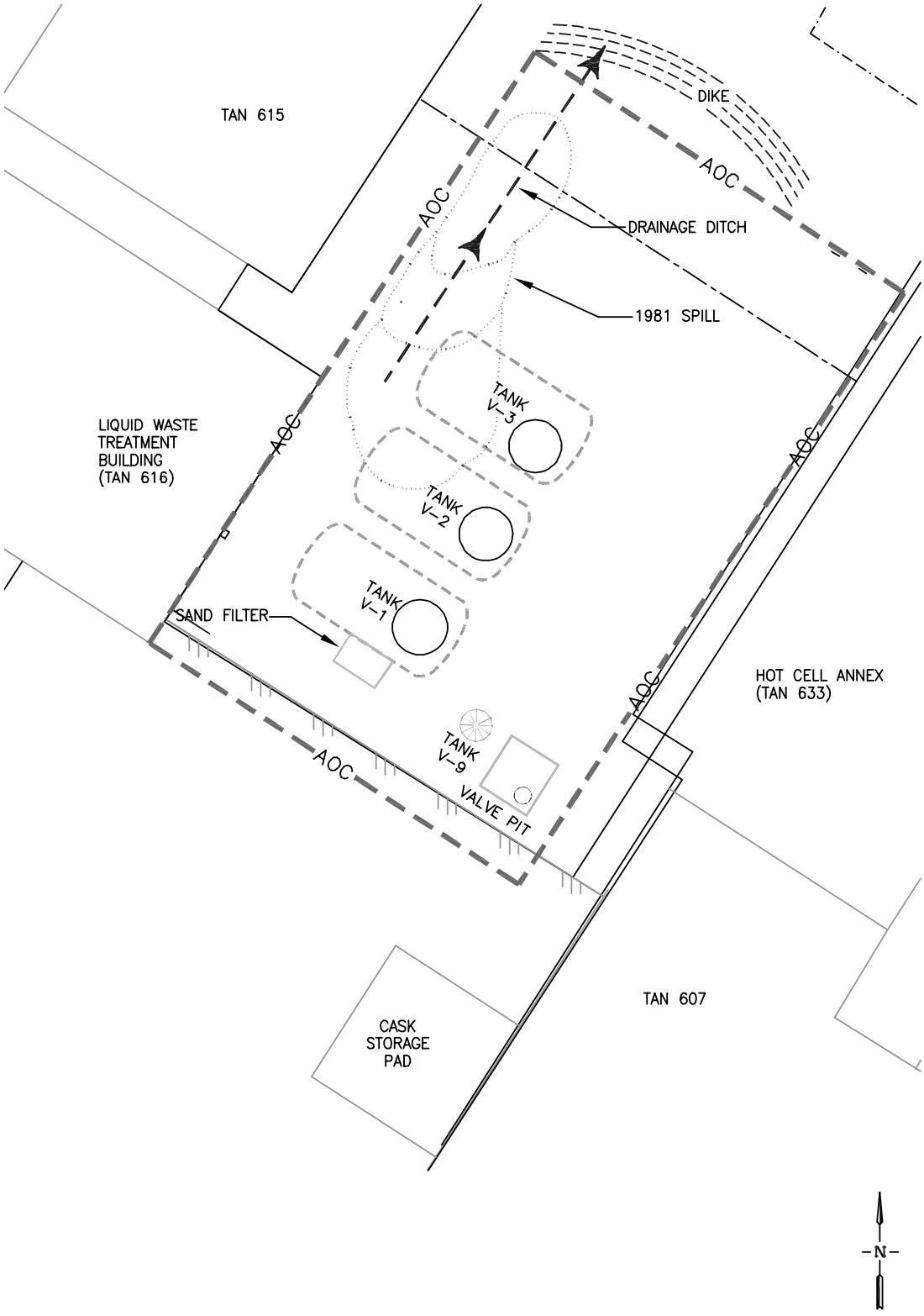

Figure 2. V-Tanks configuration.

1.2 Selected Alternative

The alternative selected by the ROD Amendment is soil and tank removal, ex situ chemical oxidation, with stabilization of tank contents, and disposal. The treatment activities will take place at TAN. The treated material will be disposed at the ICDF. Air pollution control residuals that can not be disposed of at the ICDF will be treated, if necessary and disposed off the INEEL. The amended remedy will prevent unacceptable current and future exposure of workers, the public, and the environment to contaminants in the V-Tanks.

The amended remedy changes the actions that will be taken for the V-Tanks contents. The tank contents will be removed and treated to meet land disposal restrictions (LDRs). Treatment includes addition of a chemical oxidant used to destroy the organic compounds followed by stabilization. The waste will then be disposed of at the INEEL CERCLA Disposal Facility (ICDF) or other approved facility. The surrounding soil, tanks, and debris will be removed and disposed of at the ICDF. The site will be backfilled and restored.

In addition, the changes affecting the V-Tanks as described in the 2003 Explanation of Significant Differences (ESD) (DOE-ID 2003a) also remain in effect. The change to further characterize the surrounding contaminated soil and further define the corresponding area of contamination is included in the new remedy. Also, the change in the ESD to add requirements for managing polychlorinated biphenyl (PCB) contaminated remediation waste has been incorporated into the ROD Amendment in Table 9-1 of Section 9.

1.3 Remedial Action Objectives

The Remedial Action Objectives (RAOs) in the original 1999 ROD (DOE-ID 1999) addressed both the soil pathway and the V-Tanks contents. The ROD amendment refined the remedial action objective (RAO) for the soil pathway.

To meet the original soil RAO, a final remediation goal (FRG) was established in Table 6-1 of the 1999 ROD. The objective of the FRG is to ensure risk-based protection of human health and the environment by providing unrestricted land use in 100 years. Table 6-1 of the 1999 ROD indicates that cesium (Cs)-137 was the only contaminant of concern (COC) identified for the soils surrounding the V-Tanks that would pose an unacceptable risk after 2099. The table notes that no risk assessment was performed on the tank contents because the tanks were not incorporated into the site until the feasibility study phase. Hence, the only identified COC, Cs-137, is based on the soil data that was available at that time. The 1999 ROD established the FRG as 23.3 pCi/g for Cs-137.

In accordance with the 2003 ESD, additional soil characterization around and beneath the level of the bottom of the V-Tanks was conducted in the 2003 field season. This soil sampling primarily focused on areas beyond and below previous sampling efforts to identify the extent of contamination. The COCs analyzed from the soil sampling were based on the contaminants identified in the tanks.

If new COCs are identified in the soils surrounding the V-Tanks from the soil characterization that was conducted in 2003, or from subsequent soil characterization sampling after the tanks and piping are removed, a new FRG will be determined for each COC, based on the same assumptions and methodology used in the OU 1-10 Remedial Investigation/Feasibility Study (RI/FS). The FRGs will be calculated such that the cumulative risk from all of the soil COCs will not exceed a carcinogenic risk of 1 in 10,000 and a cumulative hazard index of 1 for the exposure pathways described in the 1999 ROD. The new FRGs, if any, will be identified through application of the process addressed in the *Risk Based Screening and Assessment Approach for Waste Area Group 1* (INEEL 2004).

Because it was not known whether additional COCs would be identified in the soil based on 2003 characterization or subsequent sampling, the RAO for the V-Tanks soil pathway was modified in the ROD Amendment to refer to all exposure pathways and all COCs rather than just external radiation exposure from Cs-137.

The modified RAO for the soil pathway is:

- Reduce risk from all pathways and all COCs to a total excess cancer risk of less than 1 in 10,000 and a total hazard index of less than 1 for the hypothetical resident 100 years in the future and for the current and future worker.

The RAO for the V-Tank contents is:

- Prevent release to the environment of the V-Tank contents.

To meet these objectives, the contaminated soils and the V-Tanks contents must be removed. The ROD Amendment reconsidered the no action and limited action (institutional controls) alternatives, however, both were again rejected because they would leave a significant quantity of contaminants in tanks that are not designed for indefinite storage.

1.3.1 Final Remediation Goals

To meet these RAOs, final remediation goals (FRGs) were established and documented in the ROD to ensure a risk-based protectiveness of human health and the environment by providing unrestricted land use in 100 years. These goals, which are both contaminant and site specific, are quantitative cleanup levels based primarily on applicable or relevant and appropriate requirements (ARARs) and risk-based doses. The soil FRG, as identified in Table 6-1 of the ROD, is:

- 23.3 pCi/g Cs-137 for TSF-09/18.

FRGs apply in a different manner for soil to a depth of 3 m (10 ft) below ground surface (bgs) and to soil more than
3 m (10 ft) bgs:

- Soil exceeding the Cs-137 FRG of 23.3 pCi/g to a maximum depth of 3 m (10 ft) bgs will be excavated

- Application of institutional controls will be applied to soils exceeding the Cs-137 FRG of 23.3 pCi/g more than 3 m (10 ft) bgs.

1.3.2 Tank Site Closure

The OU 1-10 ROD also specifies that the TSF-09/18 V-Tanks are subject to closure under the State of Idaho Hazardous Waste Management Act (HWMA). To address this requirement a separate HWMA/Resource Conservation and Recovery Act (RCRA) Closure Plan (DOE-ID 2004b) has been prepared to provide closure requirements for the V-Tank system.

1.4 General Requirements, ARARs, and Design Criteria

The applicable or relevant and appropriate requirements (ARARs) that apply to the V-Tanks remediation are identified in the ROD Amendment in Table 9-1 of Section 9. These ARARs will be used

along with all other applicable DOE and INEEL requirements to provide the complete design criteria for the V-Tanks remediation. As part of the design process, an implementation approach for the ARARs will be developed and will be identified in the remedial design/remedial action work plan (RD/RAWP) addendum submittals. Design criteria will also be developed and included in the remedial design.

2. REMEDIAL ACTION APPROACH AND REMEDIAL DESIGN STRATEGY

The approach and strategy for V-Tanks remedial design and remedial action has been developed to implement the remedy identified in the V-Tanks ROD Amendment on an accelerated basis as an element of the INEEL accelerated cleanup initiative.

2.1 Remedial Action Approach

The remedial action approach involves subdividing the V-Tanks remedial action into the following remedial action work elements:

- Early Remedial Action activities
- Tank contents removal and consolidation
- Tank, piping, and soil removal and disposal
- Tank system closure activities
- Site backfill and restoration
- Tank contents treatment and disposal.

The scope of each of these remedial action elements is described further in Section 2.1.1 through 2.1.6 below. The elements identified above and the more detailed description provided in the subsequent subsections may be revised and modified during the remedial design process. If significant changes are made, they will be reviewed with the Agencies during the design period and noted in the respective RD/RAWP Addendum.

2.1.1 Early Remedial Action Activities

Early Remedial Action activities implemented under previous RD/RA documents are as follows:

- Sampling of Tank V-9 contents (completed in 2001)
- V-Tank volume monitoring (ongoing)
- V-Tank site soil characterization sampling (completed in 2003 per RD/RAWP Addendum 1)
- Isolation of piping from Tank V-9 to building TAN-616 (completed in 2004 per RD/RAWP Addendum 1).

2.1.2 Tank Contents Removal and Consolidation

Tank contents removal and consolidation will be accomplished as follows:

- Soil will be removed to expose the top of the V-Tanks to provide access for tanks contents removal. The soil will be stockpiled for subsequent transport and disposal at ICDF.
- Tanks contents will be recirculated as necessary to flush the sludge from the V-Tanks and achieve a consolidated waste stream.
- Contents of V-Tanks V-1, V-2, V-3, and V-9 will be pumped into new tanks inside a temporary enclosure located plant north of TAN-666 (approximately 100 feet northwest of the V-Tanks).
- Perform air sparging of the consolidated tank contents to reduce volatile organic concentrations and for corrosion control.
- Add other INEEL CERCLA waste streams to the consolidated V-Tanks waste as approved by the agencies.

2.1.3 Tank, Piping, and Soil Removal and Disposal

Tank, piping, and soil removal and disposal will be accomplished as follows:

- Soil will be further excavated as necessary for removal of the V-Tanks and piping. The soil will be stockpiled for subsequent transport and disposal at ICDF.
- The V-Tanks and piping will be removed and transported to ICDF for disposal.
- Contaminated soil will be excavated based on earlier site characterization and transported to ICDF for disposal.
- Tank system closure activities will be performed as described under Section 2.1.4.
- Using sampling results obtained from tank system closure soil sampling, perform a risk-based assessment to determine if there are additional COCs besides Cs-137 and if so, determine FRGs for the additional COCs and determine if additional soil removal and/or institutional controls are required. Excavate additional soil if required.
- Confirmation sampling will be performed to ensure that all contaminated soil has been removed in accordance with the FRGs.
- Characterization and disposition of all waste generated during the remediation activities.
- Perform the initial phase of the Agency prefinal inspection for the V-Tanks site.

2.1.4 Tank System Closure Activities

Tank system closure activities will be performed in accordance with the HWMA/RCRA Closure Plan for Phase II: Feed System (V-Tanks) as follows:

- Isolate tank system components

- Remove waste inventory
- Remove system components
- Sample soils beneath the tanks following removal and analyze for HWMA/RCRA COCs to confirm CERCLA-derived FRGs are protective with respect to HWMA/RCRA regulated constituents.

2.1.5 Site Backfill and Restoration

Site backfill and restoration will be accomplished as follows:

- Backfill the site up to 10 feet below ground surface (bgs) with clean soil or soil removed from the excavation
- Backfill the site up to 6 inches bgs with clean soil
- Backfill the site to ground surface with clean soil
- Grade and contour the site
- Perform the final phase of the Agency prefinal inspection for the V-Tanks site
- Modify institutional controls based on the post remediation conditions.

2.1.6 Tank Contents Treatment and Disposal

Tank contents treatment and disposal will be accomplished as follows:

- Setup and test the treatment system in a temporary enclosure to be located plant north of TAN-666 (approximately 100 feet northwest of the V-Tanks).
- Perform an Agency prefinal inspection for the treatment system
- Perform tank contents chemical oxidation/reduction treatment
- Stabilize the treated waste
- Sample stabilized waste to confirm treated waste will meet LDRs and ICDF waste acceptance criteria (WAC)
- Transport the treated and stabilized waste to ICDF for disposal
- Dismantle and decontaminate the treatment system
- Characterize and dispose of all waste generated during the tank contents treatment operation.

2.2 Remedial Design Strategy

The remedial design for the amended remedy will be performed in several stages. Prior to the ROD Amendment being finalized a conceptual design and laboratory study work plan were prepared to initiate the design process. The remedial design for the new V-Tanks remedy will continue with preparation of RD/RAWP Addendums to implement the remedial action approach for the new remedy. The RD/RAWP Addendums are essentially standalone RD/RAWPs that are tied as addendums to the original V-Tanks RD/RAWP (DOE-ID 2002) for administrative purposes.

2.2.1 Original Remedial Design, Technology Evaluation, and ROD Amendment

The original V-Tanks remedial design, the subsequent technology re-evaluation, and ROD Amendment were addressed through the following elements:

- Original V-Tanks RD/RAWP (DOE-ID 2002) and Supporting Documents
- RD/RAWP Addendum (Addendum 1) for V-Tanks Early Remedial Action (ERA) (DOE-ID 2003b)
- Technology Evaluation Scope of Work (DOE-ID 2004c) and Technology Evaluation Report (DOE-ID 2004d)
- New Proposed Plan (DOE-ID 2003c) and ROD Amendment. (DOE-ID 2004a).

2.2.2 Remedial Design for New V-Tanks Remedy

The design strategy to implement the new V-Tanks remedy is subdivided into the following design elements:

- Conceptual Design Report for Ex Situ Chemical Oxidation/Reduction and Stabilization of the V-Tanks (INEEL 2003)
- Laboratory Study Work Plan for Chemical Oxidation and Stabilization of V-Tank Contents (DOE-ID 2004e)
- RD/RAWP Addendum 2 for V-Tank Contents Removal, Tanks and Piping Removal/Disposal, and Site Backfill/Restoration, and Supporting Documents
- RD/RAWP Addendum 3 for V-Tank Contents Treatment and Disposal, and Supporting Documents.

3. BOUNDING ASSUMPTIONS

The following key assumptions apply to the design and implementation of the new V-Tanks remedy. These high-level assumptions are intended to bound the remedial design; additionally more detailed design assumptions will be included in the RD/RAWP Addendums.

- Tank contents can be removed with the proposed removal system and to the degree necessary to allow direct disposal of the empty tanks.
- The proposed tank contents treatment system can achieve the required treatment standards.

- The tanks and piping have not leaked.
- The entire V-Tank contents are not classified as RCRA-characteristic waste.

4. UNRESOLVED ISSUES AND UNCERTAINTY

This section addresses unresolved issues and uncertainty that are currently identified and planned measures to address them. Uncertainties with V-Tank waste removal and treatment operations, the associated consequences and the potential mitigations are identified in Table 1.

Table 1. V-Tanks waste removal and treatment uncertainty.

	Uncertainty	Consequences	Mitigation Action
1	The sludge removal system may fail to adequately remove sludge from the V-Tanks	An alternate sludge removal system would need to be deployed. A considerable schedule delay and increased cost would result. The V-Tanks may need to be macroencapsulated prior to prior to disposal.	Mock-up testing will be conducted to demonstrate the viability of the sludge removal system. Additional spray nozzles will be provided. A contingent design will be provided for macroencapsulating V-9.
2	The V-tank contents may be determined to be characteristically hazardous.	Additional treatment and/or equipment will be required. Significant schedule delays and increased costs would result. Characteristic waste treatment would also require waste stabilization, not just solidification, for ICDF compliance.	The system will be designed to facilitate additional treatment and stabilization as required. Based on a reevaluation of existing data, an Engineering Design File (EDF-4885) has been prepared that documents the conclusion that the V-Tanks waste is non-characteristic. This EDF has been transmitted to the agencies for their concurrence.

5. RD/RA DOCUMENTS

As noted in Section 4.3 of the RD/RAWP Addendum 2 (DOE/NE-ID-2004a), the work to complete the V-Tanks remediation is divided into several phases. Implementation of the original V-Tanks remedy was addressed in the Comprehensive RD/RAWP for the Group 2 V-Tanks (DOE-ID 2002). When it was not possible to implement the original remedy a new path forward for the V-Tanks was developed to re-evaluate technology options. The V-Tanks technology evaluation was addressed in the Technology Evaluation Scope of Work for the V-Tanks (DOE-ID 2004c). The results of the technology evaluation were documented in the Technology Evaluation Report for the V-Tanks (DOE-ID 2004d). Based on the results of the technology evaluation the New Proposed Plan for the V-Tanks Contents (DOE-ID 2003c) was issued and the ROD Amendment for the V-Tanks (DOE-ID 2004a) selected the new remedy for the V-Tanks remediation.

Since the V-Tanks remediation is being implemented on an accelerated schedule, a phased RD/RA document approach with accelerated review periods will be used to implement the new V-Tanks remedy. The key RD/RA documents as introduced in Section 2.2 are listed as follows:

- *Conceptual Design Report for Ex Situ Chemical Oxidation/Reduction and Stabilization of the V-Tanks* (INEEL 2003)

- *Laboratory Study Work Plan for Chemical Oxidation and Stabilization of V-Tanks' Contents, TSF-09/18, at Waste Area Group 1, Operable Unit 1-10* (DOE-ID 2004e)

- *Group 2 Remedial Design/Remedial Action Work Plan Addendum 2 for the TSF-09/18 V-Tanks and Contents Removal and Site Remediation Test Area North, Waste Area Group 1, Operable Unit 1-10,* (DOE/NE-ID 2004a) and supporting documents

- RD/RAWP Addendum 3 for V-Tank Contents Treatment and Disposal and supporting documents.

The first two documents listed above were prepared based on plans to utilize a chemical oxidation process involving Fenton's reagent (iron or copper catalyzed hydrogen peroxide) with sodium persulfate as the chemical oxidants of choice. Based on results of the cold bench-scale lab study completed in 2003 (ICP 2004), however, it was determined that Fenton's reagent alone, applied at elevated (near boiling) temperatures, could be used to meet the chemical oxidation requirements for V-tank waste, minus the complications associated with using sodium persulfate. Therefore, Fenton's reagent became the chemical oxidant of choice. The availability of the ORNL Fenton's reagent system for use at the INEEL in May 2004 also impacted the decision to use Fenton's reagent.

5.1 Expedited Document Submittal and Approval

To support the accelerated schedule two RD/RAWP Addendums will be prepared and submitted for agency review. As addendums to the original RD/RAWP (DOE-ID 2002) they will be submitted as expedited primary documents. The typical 45-day review period and 45-day comment resolution/incorporation period for each draft document will be shortened and the draft final submittal will be eliminated as agreed to by the Agencies.

A summary of the scope of each of the documents that address implementation of the new V-Tanks remedy, and identification of the supporting documents, is provided in the following subsections. Submittal dates and review periods for these documents are provided in Table 2 in Section 6. The general approach for Prefinal Inspection Reports and the Group 2 Remedial Action Report is also included below. More specific information on these reports will be provided in the applicable RD/RAWP. Finally, information is also provided regarding requirements for updating the *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004f) and the OU 1-10 Operations and Maintenance Plan (DOE-ID 2001).

5.2 Conceptual Design

The Conceptual Design Report for Ex Situ Chemical Oxidation/Reduction and Stabilization of the V-Tanks (INEEL 2003) provided a conceptual design for the V-Tanks contents treatment based on the plans to utilize a combination of Fenton's reagent (hydrogen peroxide with a metal catalyst) and sodium persulfate. Agency comments were received in this report in July 2003. Only comments related to the current chemical oxidation approach (Fenton's reagent alone, at elevated [near boiling] temperatures) will be addressed.

5.3 Laboratory Study Work Plan

The Laboratory Study Work Plan for Chemical Oxidation and Stabilization of V-Tank Contents (DOE-ID 2004e) was prepared to address cold laboratory tests, hot laboratory tests, and cold mockup

tests to support the design and implementation of chemical oxidation/reduction. The cold laboratory test was completed in 2003 and the results are provided in the Cold Bench-Scale Final Test Report for Chemical Oxidation/Stabilization of Surrogate V-Tank Waste (ICP 2004). The hot laboratory tests and mockup tests addressed in the work plan will not be performed under the accelerated V-Tanks remediation approach. However, there are plans to conduct full-scale tests, using Fenton's reagent.

5.4 RD/RAWP Addendum 2 – Tank Removal and Site Remediation

RD/RAWP Addendum 2 for V-Tank Contents Removal and Site Restoration (DOE/NE-ID 2004a), and Supporting Documents, will address the following remedial action elements:

- Tank Contents Removal, Consolidation and Sparging
- Tank, Piping, and Soil Removal and Disposal
- Tank System Closure Activities
- Site Backfill and Restoration.

The content of the RD/RAWP Addendum will be essentially the same as a typical RD/RAWP. The contents will, however, be streamlined as much as possible and will focus on information that is typically important to the Agencies in order to ensure the remediation design and implementation plan will provide for complete and effective remedy implementation. Vendor detailed design, fabrication details, and work execution details, that may ultimately be needed to implement the remedial action, will not be included in the RD/RAWP Addendum 2.

5.4.1 Preliminary (30%) Remedial Design Addendum 2

A 30% design was provided to the Agencies at a tabletop review conducted March 4, 2004. The 30% design will include the following preliminary information:

- Design description
- Process and/or work flow diagrams (PFDs/WFDs)
- Volume, flow rate, and quantity estimates
- Major equipment identification and list
- Piping and instrument diagrams (P&IDs)
- General arrangement/layout drawings.

Agency input and comments from the tabletop review will be incorporated into the draft RD/RAWP.

5.4.2 RD/RAWP Addendum 2 (90% Design)

A 90% draft RD/RAWP was provided to the Agencies for a review. The RD/RAWP Addendum 2 will include the following information in the remedial design section of the document or in an appendix, attachment, or supporting document:

- Restatement of remedial action objectives from ROD Amendment
- ROD remedy implementation approach
- Design criteria
- Design description
- Design assumptions
- Design alternatives that were considered
- Process and/or work flow diagrams (PFDs/WFDs)
- Volume, flow rate, and quantity estimates
- Major equipment, component, and instrument list
- Identification of areas of risk or uncertainty and measures to mitigate
- ARAR, TBC, and permitting considerations (i.e., special transport plans) and ARAR implementation table
- Calculations that support meeting cleanup goals or environmental protection requirements (e.g., air modeling calculations and report)
- General arrangement/layout drawings
- Piping and instrument diagrams (P&IDs)
- Mechanical and piping layout drawings
- Architectural, civil, instrumentation, and electrical drawings as applicable.

The RD/RAWP Addendum 2 will include the following information under the remedial action work plan (RAWP) section of the document or in an appendix, attachment, or supporting document:

- Cost estimate for remedial action
- Remedial action working schedule
- Deliverables schedule table
- Remedial action elements and work tasks
- Remedial action confirmation sampling requirements
- Reference to tank system closure requirements
- Waste stream list and disposition requirements
- Agency prefinal inspection and reporting requirements
- Agency final inspection and remedial action report requirements

- Identification of supporting documents
- Changes from the RD/RA Scope of Work (SOW).

Supporting documents will be submitted with the draft RD/RAWP and include the following:

- Confirmation Field Sampling Plan
- Waste Management and Decontamination Plan
- V-Tanks Closure Plan (This plan is submitted to DEQ separately from the RD/RAWP Addendum).

Agency comments from the draft RD/RAWP review will be resolved and incorporated into the final RD/RAWP. Comment resolution forms addressing agency comments on the draft documents will be included as an appendix to the final RD/RAWP Addendum 2.

5.5 RD/RAWP Addendum 3 – Tank Contents Treatment

RD/RAWP Addendum 3 for V-Tank Contents Treatment and Disposal and Supporting Documents will address the following remedial action elements:

- Tank Contents Treatment and Disposal.

The content of the RD/RAWP Addendum 3 will be essentially the same as RD/RAWP Addendum 2. Again, the contents will be streamlined as much as possible and will focus on information that is typically important to the Agencies in order to ensure the remediation design and implementation plan will provide for complete and effective remedy implementation. Vendor detailed design, fabrication details, and work execution details, that may ultimately be needed to implement the remedial action, will not be included in the RD/RAWP Addendum 3.

A 30% design will be provided to the Agencies for a tabletop review. The 30% design will include preliminary information including design description, process and/or work flow diagrams, piping and instrument diagrams (P&IDs), and design alternatives being considered (if any).

A 90% draft RD/RAWP will be provided to the Agencies for review. The draft RD/RAWP Addendum 3 will include draft information in the remedial design (RD) and in the remedial action work plan (RAWP) sections of the document or in an appendix, attachment, or supporting document.

Agency comments from the draft RD/RAWP review will be resolved and incorporated into the final RD/RAWP. Comment resolution forms addressing agency comments on the draft documents will be included as an appendix to the final RD/RAWP Addendum 3.

5.6 Prefinal Inspections and Remedial Action Report

Agency prefinal inspections will be planned during the remedial design process. Prefinal inspections will occur at the following times:

- After contaminated soil removal and confirmation sampling (prior to backfill)
- After site backfill and restoration
- Prior to contents treatment system initial operations.

Pre-final inspection checklists will be prepared for Agency concurrence prior to the prefinal inspections and prefinal inspection reports will be prepared to document the results of the inspections.

A remedial action (RA) report will be prepared to document the completion of the Group 2 V-Tanks Remedial Action. If timing permits, this RA report may be combined with the RA report for the Group 1 and 3 sites.

More detailed information and more specific timing on the prefinal inspection process and report and the remedial action report will be provided in the RD/RAWP Addendums.

5.7 Institutional Controls Plan

The Waste Area Group (WAG) 1 Institutional Controls (IC) Plan (INEEL 2000) was prepared in 2000 and remained in effect until 2003 when the *INEEL Sitewide Institutional Controls Plan* (DOE-ID 2004f) was completed and approved by the agencies. The Sitewide IC Plan integrates the management of WAG 1 institutional controls with all other WAG institutional controls mandated by RODs. Annual assessments and inspections are performed and reported uniformly across the INEEL Site by the Long-Term Stewardship Program.

The ownership of active CERCLA remediation sites (sites where remedial action is pending or under way), however, continues to reside with the individual WAGs. That is, WAG 1 will continue to be responsible for remediation sites at TAN until all remedial activities are complete. As remediation is completed at WAG 1 sites, resulting changes to institutional control requirements will be identified and incorporated into the Sitewide IC Plan, and responsibility for the sites will transfer to the INEEL Long-Term Stewardship Program. No further action IC sites are under the ownership of the Long-Term Stewardship Program, however, disturbance of such sites is controlled by WAG 1.

5.8 Operations and Maintenance Plan

A specific operations and maintenance (O&M) plan will not be prepared for the V-Tanks remediation since the treatment system operations and maintenance period is a very short duration. Applicable treatment system O&M requirements for the V-Tanks will be addressed in the V-Tanks RD/RAWP Addendum as applicable. Detailed operating requirements will be covered in operating procedures. These procedures will be prepared based on the requirements in the RD/RAWP Addendums and will not be submitted for Agency review.

General V-Tank site O&M requirements are addressed in the OU 1-10 Operations and Maintenance Plan (O&M) Plan (DOE-ID 2001). The OU 1-10 O&M Plan covers current requirements for environmental monitoring, such as periodic radiation surveys, and site inspection and maintenance, such as inspection and maintenance of soil covers. As remediation is completed at WAG 1 sites, resulting changes to site O&M requirements will be identified and included in the INEEL Sitewide O&M Plan (DOE/NE-ID-2004b) The INEEL Sitewide O&M Plan will be updated on an annual basis. The O&M Plan contains a discussion on site monitoring and invasive plant management. An integrated Weeds Management Plan is being written that will address any specific actions in the O&M Plan.

6. RD/RA SCHEDULE AND DELIVERABLES

This section provides a working schedule (Figure 3) for the V-Tanks remedial design and remedial action. This working schedule has been developed to support the accelerated schedule for V-Tanks remediation. Table 2 provides a deliverable schedule for documents that require Agency review/approval and have enforceable deadlines. As defined in Section XII of the FFA/CO and agreed to by the Agencies, the enforceable milestones include the submittal of the draft V-Tanks RD/RAWP

Addendum 2 and Addendum 3. Additional enforceable milestones will be addressed in the V-Tanks RD/RAWP Addendum 3.

Table 2. Deliverable Schedule for OU 1-10 Group 2 V-Tanks RD/RA.

Activity	Planned Start Date	Planned Completion Date	Document Type/ Review Period [a]	Enforceable Milestone
V-Tanks RD/RAWP Addendum 2 **Tank Removal and Site Remediation**				
30 % Design Addendum 2				
Informal submittal of OU 1-10 30% V-Tanks Design Addendum 2	NA	04-26-04	NA	
Agency Tabletop Review Meeting for OU 1-10 30% V-Tanks Design Addendum 2		05-19-04	NA	
Draft RD/RAWP Addendum 2				
Submittal of Draft OU 1-10 V-Tanks RD/RAWP Addendum 2	NA	06-28-04	Expedited Primary [b]	10-31-04
Agencies Review of Draft OU 1-10 V-Tanks RD/RAWP Addendum 2	06-29-04	08-25-04	21	
Obtain Agency Concurrence on Comment Resolutions	NA	09-13-04	11	
Prepare Final OU 1-10 V-Tanks RD/RAWP Addendum 2	NA	09-17-04	11	
OU 1-10 V-Tanks RD/RAWP Addendum 2 Finalized and Issued	NA	09-24-04		
V-Tanks RD/RAWP Addendum 3 **Tank Contents Treatment**				
30 % Design Addendum 3				
Informal submittal of OU 1-10 30% V-Tanks Design Addendum 3	NA	09-07-04	NA	
Agency Tabletop Review Meeting for OU 1-10 30% V-Tanks Design Addendum 3		9-14-04	7	
Draft RD/RAWP Addendum 3				
Submittal of Draft OU 1-10 V-Tanks RD/RAWP Addendum 3	NA	10-29-04	Expedited Primary [b]	03-31-05
Agencies Review of Draft OU 1-10 V-Tanks RD/RAWP Addendum 3		11-18-04	21	
Obtain Agency Concurrence on Comment Resolutions		12-10-04	11	
Prepare Final OU 1-10 V-Tanks RD/RAWP Addendum 3		12-13-04	11	
OU 1-10 V-Tanks RD/RAWP Addendum 3 Finalized and Issued	NA	12-15-04		

a. Review periods are stated in calendar days.
b. Expedited primary documents are planned without a draft final submittal.

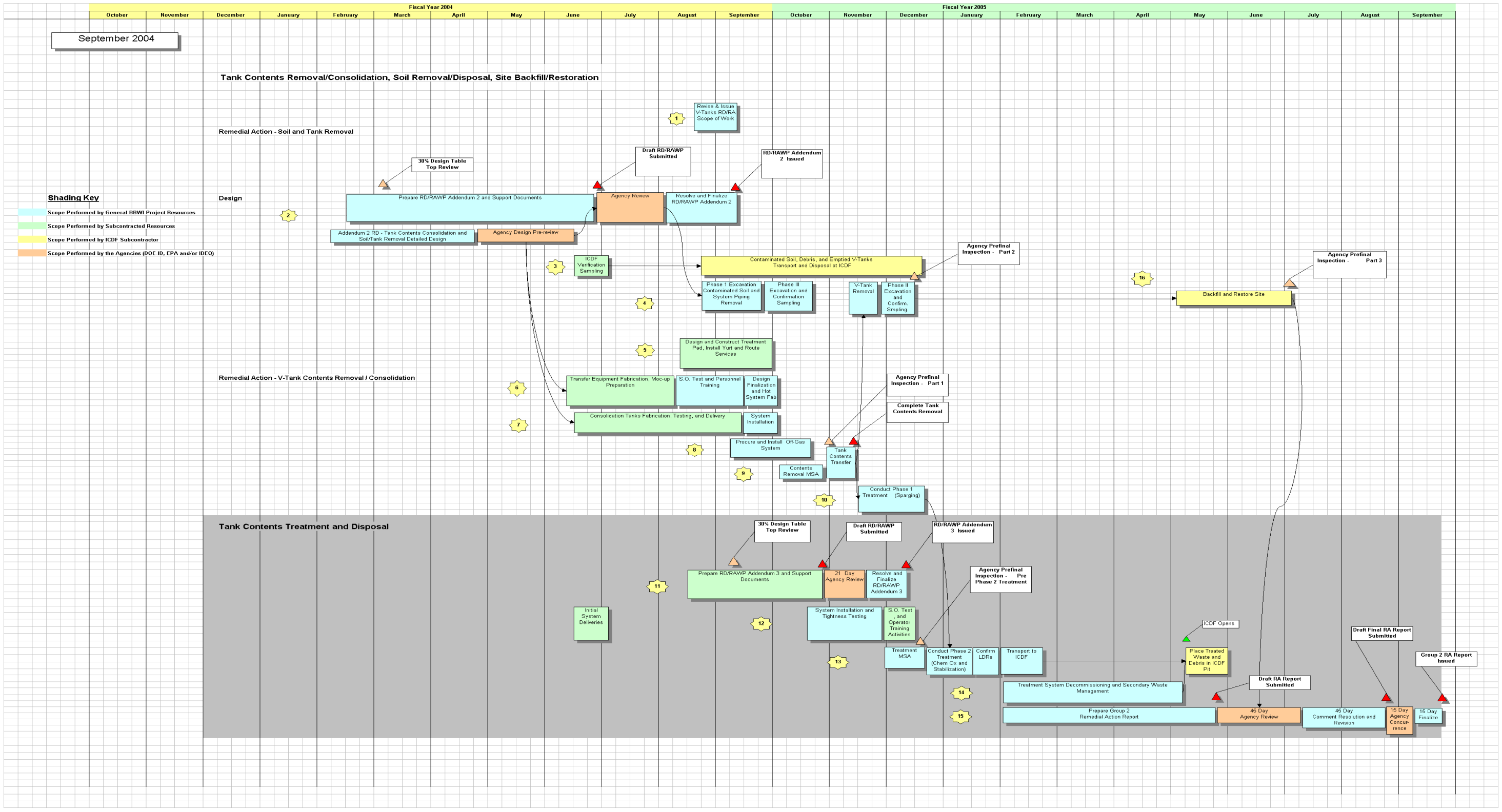

Figure 3. Working schedule for OU 1-10 Group 2 V-Tanks RD/RA.

7. STRATEGY AND PLANS FOR EXPEDITING

The remedial action approach and remedial design strategy presented in Section 2, the RD/RA document scoping presented in Section 5, and the RD/RA schedule and document deliverable schedule presented in Section 6 were developed to support an accelerated remediation schedule for the V-Tanks. The accelerated approach that will be applied for document preparation, document reviews, and remedial action implementation are outlined further below. Document preparation will be streamlined using the following approach:

- RD/RAWP addendums, appendices and supporting documents will be prepared in standard formats.

- Document content will focus on important elements per the INEEL RD/RA guidance using ROD requirements, such as, RAOs, FRGs, closure, remedy implementation, and requirements performance criteria, as the design basis.

- Document content will exclude detail, such as, vendor design details and data, fabrication details, construction and installation details, miscellaneous design calculations, and detailed work instructions. Document content will include details supporting ARARs, such as, air modeling calculations (where required), secondary containment design details and waste container design details. Supporting documents are being standardized to include: waste management plans, field sampling plans, health and safety plans, and decontamination plans. Elements of supporting documents will also be standardized, such as, standard specifications for soil remediation work, earthwork, and revegetation.

The document review and approval process will be expedited through the following approach:

- Phased RD/RAWP addendum preparations that create smaller more concise documents

- Tabletop reviews of designs facilitating early agreement on remedy implementation and design

- The maximum use of weekly conference calls to report regular updates on design status, early identification and resolution of design issues, advance review of key design elements (prior to draft submittal) and the advance review and agreement on performance criteria

- Advance submittals of RD/RAWP Addendum appendices and supporting documents

- Streamlining formal submittals by presenting the 30% Design as a table top review, not including a comprehensive 60% design submittal, and a 90% draft design supported by advance information previously provided in weekly conference calls.

Remedial action will be expedited through the following approach:

- Acceptance of risk on advance procurements and fabrication
- More project integration between design, construction, and operations
- Additional resources and multiple shifts
- An integrated area approach to cleanup activities.

8. REMEDIAL DESIGN COST ESTIMATE

The estimated cost for V-Tank remedial design are listed in Table 3. The estimated cast for remedial action will be provided in each RD/RAWP Addendum.

Table 3. Estimated design costs for implementing the selected remedies identified in the OU 1-10 ROD Amendment.

	Activity Description	Cost Estimate ($)
1	V-Tank Project Management and Support During Design	238,000
2	V-Tank Chemical Oxidation Technology Evaluation & Laboratory Testing	323,000
3	V-Tank RD/RA SOW	29,000
4	RD/RAWP Addendum 2 (Remedial Design for Tank Contents Removal and Site Remediation)	693,000
5	RD/RAWP Addendum 3 (Remedial Design for Tank Contents Treatment)	423,000
	Total Cost Estimate	1,706,000

9. PLANS FOR DISPOSITION OF CHANGES

Changes from planned conditions inevitably will occur during the execution of the remedial design and the remedial action. Identification and rapid disposition of both minor and significant changes is critical to successful project implementation under the accelerated schedule for remedial action. As a result, the protocol for disposition of changes occurring during the design phase will be:

- Any issues or potential changed condition arising from newly discovered site conditions or inconsistencies discovered in existing documentation (RI/FS, ROD Amendment, etc.) will be brought to the attention of the Agencies via periodic conference calls and/or status meetings. Items of significant importance may be addressed in impromptu conference calls and/or meetings. Agency agreement on how to resolve issues or disposition resulting changes will be recorded in the conference call minutes or by email. Changes that may affect the ROD will be addressed per the FFA/CO established protocol.

The protocol for disposition of changes occurring during the remedial action change will be:

- Issues and potential changes will be identified to the Agencies for discussion in regular or impromptu conference calls. Resulting changes to RD/RA documents will be provided to the Agencies for concurrence and remedial action will be allowed to continue based on this concurrence. Agency agreement on how to resolve issues and concurrence on resulting document changes will be recorded in the conference call minutes or by email. Subsequent revision to RD/RA documents to incorporate the changes will note that Agency concurrence on the change was obtained and reference the conference call where the concurrence was documented.

10. COMMUNITY RELATIONS

The requirements for RD/RA elements of the INEEL Community Relations Plan (DOE/NE-ID 2004c) are found in 40 CFR 300.435(c) of the NCP. Prepared in accordance with the NCP, the INEEL Community Relations Plan describes various community relation activities and additional INEEL specific activities that may occur during the course of this project. The OU 1-10 remedial action will be conducted in accordance with the INEEL Community Relations Plan.

Additional information regarding past community participation, including telephone briefings, fact sheets, the proposed plan, and the associated public meeting, is contained in the ROD.

11. REFERENCES

40 CFR 300, 2002, "National Oil and Hazardous Substances Pollution Contingency Plan," *Code of Federal Regulations*, Office of the Federal Register, November 25, 2002.

42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation, and Liability Act of 1980," as amended. (NOTE: The 1986 amendment is cited as "Superfund Amendments and Reauthorization Act of 1986," [SARA].)

DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Docket No. 1088-06-29-120, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.

DOE-ID, 1999, *Final Record of Decision for Test Area North, Operable Unit 1-10*, DOE/ID-10682, Revision 0, U.S. Department of Energy Idaho Operations Office, May 1999.

DOE-ID, 2001, *Operations and Maintenance Plan for Test Area North, Operable Unit 1-10,* U.S. Department of Energy Idaho Operations Office, DOE/ID-10711, Revision 1, November 2, 2001.

DOE-ID, 2002, *Comprehensive Remedial Design/Remedial Action Work Plan for the Test Area North, Waste Area Group 1, Operable Unit 1-10, Group 2 Sites*, DOE/ID-10875, Revision 1, March 1, 2002.

DOE-ID, 2003a, *Explanation of Significant Differences for the Record of Decision for Test Area North Operable Unit 1-10*, DOE/ID 11050, Revision 0, U.S. Department of Energy Idaho Operations Office, April 17, 2003.

DOE-ID, 2003b, *Comprehensive Remedial Design/Remedial Action Work Plan Addendum for V-Tank Early Remedial Action for the Test Area North, Waste Area Group 1, Operable Unit 1-10, Group 2 Sites*, DOE/ID-11075, Revision 0, May 23, 2003.

DOE-ID, 2003c, *New Proposed Plan for the V-Tanks Contents (TSF-09 and TSF 18) at Test Area North, Operable Unit 1-10,* Administrative Record No. 24783, U.S. Department of Energy, U.S. Environmental Protection Agency, Idaho Department of Environmental Quality, April 2003.

DOE-ID, 2004a, *Record of Decision Amendment for the V-Tanks (TSF-09 and TSF-18) at the Test Area North, Operable Unit 1-10*, DOE/ID-10682, Revision 0, February 29, 2004.

DOE-ID, 2004b, *HWMA/RCRA Closure Plan for the TAN/TSF Intermediate-Level Radioactive Waste Management System; Phase II: Feed Subsystem (V-Tanks)*, DOE/ID-11053, Revision 3, July 29, 2004.

DOE-ID, 2004c, *Technology Evaluation Scope of Work for the V-Tanks, TSF-09/18, at Waste Area Group 1, Operable Unit 1-10,* DOE/ID-10999, Revision 1, March 10, 2004.

DOE-ID 2004d, *Technology Evaluation Report for the V-Tanks, TSF-09/18, at Waste Area Group 1, Operable Unit 1-10,* DOE/ID-11038, Revision 1, March 10, 2004.

DOE-ID, 2004e, *Laboratory Study Work Plan for Chemical Oxidation and Stabilization of V-Tanks' Contents*, *TSF-09/18, at Waste Area Group 1, Operable Unit 1-10*, DOE/ID-11083, Revision 1, March 9, 2004.

DOE-ID, 2004f*, INEEL Sitewide Institutional Controls Plan,* DOE/ID-11042, Revision 1, June 2004.

DOE/NE-ID, 2004a, *Group 2 Remedial Design/Remedial Action Work Plan Addendum 2 for the TSF-09/18 V-Tanks and Contents Removal and Site Remediation Test Area North, Waste Area Group 1, Operable Unit 1-10,* DOE/NE-ID-11150, Revision 0, September 2004.

DOE/NE-ID, 2004b, "INEEL Sitewide Operations and Maintenance Plan for CERCLA Response Actions," DOE/NE-ID-11159, Revision 0, Draft, June 2004.

DOE/NE-ID, 2004c, *Community Relations Plan: A Guide to Public Involvement in the CERCLA Cleanup Program at the INEEL*, DOE/NE-ID-11149, Revision 0, February 2004.

EDF-4885, 2004, "Reevaluation of Characteristic Toxicity Designation for V-Tank Waste, using Existing Sample Data," Rev.1, August 9, 2004.

ICP, 2004, *Cold Bench-Scale Final Test Report for Chemical Oxidation/Stabilization of Surrogate V-Tank Waste*, ICP/EXT-03-00019, Revision 0, April 21, 2004.

INEEL, 2000, *Institutional Controls Plan for Test Area North Waste Area Group 1*, INEEL/EXT-2000-00917, Revision 0, September 28, 2000.

INEEL, 2003, C*onceptual Design Report for Ex Situ Chemical Oxidation/Reduction and Stabilization of the V-Tanks at Waste Area Group 1, Operable Unit 1-10*, INEEL/EXT-03-00438, Revision 0, June 25, 2003.

INEEL, 2004, *Risk-Based Screening and Assessment Approach for Waste Area Group1 Soils*, INEEL/EXT-03-00540, Revision 0, May 19, 2004.

Appendix A

Agency Comment Resolution Forms

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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: August 24, 2004 **REVIEWER:** **DOE**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1			Update the RD/RA SOW to included information relative to the V-Tanks contents treatment system and other general revisions as necessary.	Comment incorporated.
SPECIFIC COMMENTS				

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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: May 4, 2004 **REVIEWER: DEQ**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1				
SPECIFIC COMMENTS				
1	Section 1 First Paragraph	1	In the introduction, please add in parentheses after TSF-09 and TSF-18, "(V-tanks 1, 2 and 3)" and "(V-9)", respectively.	Comment accepted. Will revise as recommended.
2	Section 1.3 Fourth Paragraph	4	The first sentence includes the section "…or from subsequent soil characterization sampling after the tanks and piping are removed…" Please state where (document) the soil characterization and associated sampling, and results, will be described.	Comment noted. The more detailed requirements for further soil characterization sampling will be addressed in the *Group 2 Remedial Design/Remedial Action Work Plan Addendum 2 for the TSF-09/18 V-Tanks and Contents Removal and Site Remediation Test Area North, Waste Area Group 1, Operable Unit 1-10* (DOE/NE-ID 2004a) and its supporting Field Sampling Plan.

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DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: May 4, 2004 **REVIEWER: DEQ**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
3	Section 1.3 Last Paragraph	5	In order to meet and be consistent with the RAO objectives described in the previous bullets, the first sentence should be changed to state, "To meet these objectives, the *contaminated soils and the V-tanks* contents must be removed" (delete "of the V-tanks"). Please consider this change.	Comment accepted. Will revise as recommended.
4	Bullets	6	If possible, please provide more specificity for the dates shown by including a month with each of the years indicated.	Comment noted. More detailed date information will be provided in a Remediation Completion Report for the ERA Activities.
5	Section 2.1.2 Last Bullet	7	Indicate if possible if additional fresh water may be needed to flush sludge from the tank, and if so, what will be the fate of this water.	Comment noted. The type of information indicated will be provided in the RD/RAWP Addendum 2.
6	Section 2.2.1 Last Bullet	9	To be consistent, please add "(DOE-ID 2004)" at the end of the sentence. The ROD Amendment is included in the references on page 22.	Comment accepted. Will revise as recommended.
7	Section 3 Second Bullet	9	The end of the sentence should be changed from "…to allow direct disposal." to "…to allow *treatment*." The untreated tank contents cannot be disposed without treatment. If correct, please make this change.	Comment noted. This bullet is referring to "direct disposal of the empty V-Tanks". See response to EPA Comment 5.

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PROJECT DOCUMENT REVIEW RECORD

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DATE: May 4, 2004 **REVIEWER: DEQ**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
8	Section 3 Last Bullet	9	Please add an explanation (comment resolution, not necessarily in the text) as to why the ICDF WAC needs to be changed to accept the V-tanks "whole" for disposal.	Comment noted. The current ICDF WAC includes a size limitation that is exceeded by the empty V-Tanks.
9	Section 5.1 Second Sentence, 1st Paragraph	11	Add to this sentence "…as agreed to by the Agencies."	Comment noted. Will add the requested addition to the third sentence rather than the second sentence.
10	Section 5.4 First Paragraph	12	Please make the RD/RA WP Addendum title consistent with those found on page 9, Section 2.2.2, third bullet, and page 10, Section 5, third bullet, for example.	Comment noted. The bullets in Section 2.2.2 are "design elements" and are therefore more descriptive. The bullets in Section 5 on page 10 will be revised to reflect the Addendum titles.

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PROJECT DOCUMENT REVIEW RECORD

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DATE: May 4, 2004 and September 14, 2004 **REVIEWER:** **EPA**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
GENERAL COMMENTS				
1			Both a working schedule, with the abbreviated review times, etc., and an enforceable schedule, with the default review schedule, etc., should be included in the Scope of Work (SOW).	Comment accepted. An enforceable milestone of October 31, 2004 has been added to Table 2 for submittal of the draft *Group 2 Remedial Design/Remedial Action Work Plan Addendum 2 for the TSF-09/18 V-Tanks and Contents Removal and Site Remediation Test Area North, Waste Area Group 1, Operable Unit 1-10* (RD/RAWP Addendum 2).
SPECIFIC COMMENTS				
1	1.1 First paragraph	1	Check the use of on-site and off-site treatment in this paragraph to insure one is not describing on-INEEL and/or off-INEEL treatment.	Comment accepted. Usage has been checked and revised as applicable.
2	1.2 First paragraph	4	EPA recommends rewriting the second sentence to read; "The treatment activities will take place at TAN. The treated material will be disposed at the ICDF. Air pollution control residuals that can not be disposed of at the ICDF will be treated, if necessary and disposed off the INEEL."	Comment accepted. The second sentence has been replaced with the proposed language.

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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: May 4, 2004 and September 14, 2004 **REVIEWER: EPA**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
3	1.3.1 Second paragraph	5	EPA is in general agreement with this approach. However, what is DOE's philosophy as to when to stop excavating should the confirmation sampling analysis be close to the 23.3 pCi/gr but still greater than the FRG and the excavation is >10 feet?	The language in Section 1.3.1 is directly from the ROD Amendment. The implementation approach to meet these requirements will be detailed in the RD/RAWP Addendum 2.
4	2.1.2 First bullet	7	There appears to be a typo. EPA recommends the bullet read; "Soil will be removed from the top of the . . ."	Comment accepted. Sentence changed to read; "Soil will be removed to expose the top of the V-Tanks to provide access for tank contents removal."
5	3	9	EPA requests clarification of the second bullet. Is it the tanks themselves that is being proposed for direct disposal? If the V-tanks can be disposed directly can they also be filled with the treated and grouted prior to disposal? If not, could the tanks be filled contaminated soil?	Comment noted. This bullet is only a bounding assumption. More detail on how and to what extent contents will be removed will be provided in the RD/RAWP Addendum 2. The end of this bullet will be revised to state, "… to allow direct disposal of the empty tanks."

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DATE: May 4, 2004 and September 14, 2004 **REVIEWER: EPA**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
6	5.7	15	It is not clear who has responsibility at this point for those sites at TAN that currently require institutional controls. Will the periodic IC reports be generated by TAN or by Long-Term Stewardship Program?	Comment noted. As noted in the second paragraph WAG 1 has the responsibility for active remediation sites. The parenthetical "(sites where remedial action is pending or underway)" will be added to further clarify. LTS program is responsible for no further action ICs sites. The following sentence will be added to clarify; "No further action ICs sites are under the ownership of the Long-Term Stewardship program, however, disturbance of such sites is controlled by WAG 1." As noted in the first paragraph, the LTS program will perform IC assessments and prepare the annual assessment reports.
1	1.3 Third Paragraph last sentence	4	During an earlier conference call the State raised an issue with this sentence that notes the sampling will not be final until 2004. If this sampling been completed then the text should be revised.	Comment accepted. This sampling is complete. The last sentence in paragraph 3 has been deleted.

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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: May 4, 2004 and September 14, 2004 **REVIEWER: EPA**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
2	2.1.6	8	It is my understanding there is a distinction drawn between solidified waste and stabilized waste. The fourth and fifth bullets state the waste will be solidified. This comment is just to make sure this step of solidification is the chosen path forward for treatment.	Comment noted. For these two bullets, the word "solidified" has been replaced with "stabilized".
3	3	10 1st Bullet	Check to make sure this statement is true.	Comment noted. This statement is true as a high-level assumption and will be confirmed by further sampling.
4	5.8 Second paragraph last sentence	16	This sentence states that the OU 1-10 O&M Plan will be revised accordingly. What is the projected date for this revision? EPA recommends that this revision contain a discussion about the need to monitor disturbed areas and what this monitoring should consist of such as infiltration of the disturbed areas by invasive plants unless this issue is addressed elsewhere.	Comment noted. The following has been added to the last paragraph in this section: "As remediation is completed at WAG 1 sites, resulting changes to site O&M requirements will be identified and included in the INEEL Sitewide O&M Plan (DOE/NE-ID 2004b). The INEEL Sitewide O&M Plan will be updated on an annual basis." The INEEL Sitewide O&M Plan contains a discussion on site monitoring and invasive plant management. An Integrated Weeds Management Plan is being written that will address any specific actions identified in the O&M Plan.

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PROJECT DOCUMENT REVIEW RECORD

DOCUMENT TITLE/DESCRIPTION: Remedial Design/Remedial Action Scope of Work for the V-Tanks (TSF-09 and TSF-18) at Test Area North, Waste Area Group 1, Operable Unit 1-10 (Draft) – DOE/ID-11119

DATE: May 4, 2004 and September 14, 2004 **REVIEWER: EPA**

ITEM NUMBER	SECTION NUMBER	PAGE NUMBER	COMMENT	RESOLUTION
5	6 Figure 3	19	EPA assumes this schedule is a working schedule. If there is an enforceable schedule elsewhere that location should be referenced in Section 6. (There is a reference to the Addendum 2 Work Plan but this reviewer was unable to locate such a schedule.) Otherwise the enforceable schedule should be included in the SOW.	Comment noted. Figure 3 is a working schedule. The enforceable milestone dates for submittal of the draft OU 1-10 V-Tanks Addendums are provided in Section 6, Table 2. The introductory paragraph of Section 6 has been changed to the following: "This section provides a working schedule (Figure 3) for the V-Tanks remedial design and remedial action. This working schedule has been developed to support the accelerated schedule for V-Tanks remediation. Table 2 provides a deliverable schedule for documents that require Agency review/approval and have enforceable deadlines. As defined in Section XII of the FFA/CO and agreed to by the Agencies, the enforceable milestones include the submittal of the draft V-Tanks RD/RAWP Addendum 2 and Addendum 3. Additional enforceable milestones will be addressed in the V-Tanks RD/RAWP Addendum 3."